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DEFINING, VALIDATING, AND INCREASING INDICES OF HAPPINESS AMONG PEOPLE WITH PROFOUND MULTIPLE DISABILITIES

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In this study we attempted to operationalize, measure, and increase happiness among people with profound disabilities. Happiness indices were defined and observed among 5 individuals. Validation measures indicated that (a) increases in happiness indices were observed when individuals were presented with most preferred stimuli relative to least preferred stimuli, (b) increases in unhappiness indices were observed when they were presented with least preferred relative to most preferred stimuli, and (c) practitioner ratings of participant happiness coincided with observed indices. Subsequently, classroom staff increased happiness indices through presentation and contingent withdrawal of activities. Results suggested that a behavioral approach can enhance happiness as one aspect of quality of life among people with profound disabilities. Research directions are offered that focus on using a behavioral approach to investigate other private events that are important among people with disabilities.

DESCRIPTORS: happiness, profound multiple disabilities, social validation, assessment

Promoting a desirable quality of life for persons with severe developmental disabilities is an important but unmet challenge in our field. The existing challenge is in part due to difficulties in operationally defining variables that are relevant to quality of life for people who, for example, have profound mental and physical impairment (Evans & Scotti, 1989). Currently, there is no readily available behavioral technology designed to assist individuals with the most profound disabilities in achieving a desirable lifestyle (Bailey, 1981; Reid, Phillips, & Green, 1991). However, recently there has been a small but apparent increase in research directed to providing appropriate supports relevant to quality of life for people with profound multiple disabilities (Reid et al., 1991).

One area that has not yet received attention from behavioral researchers is the degree of enjoyment or happiness experienced by persons with profound multiple disabilities who have little or no verbal or mobility skills. Individuals with functional verbal repertoires often gain access to desired stimuli (items, activities, etc.) that may promote happiness and improve their quality of life simply by stating (i.e., manding) what they want. These individuals also often avoid or terminate unfavorable stimuli that may be associated with decreased happiness through verbal mands. In contrast, persons with profound disabilities may have less access to stimuli associated with happiness because they do not effectively communicate their preferences. Similarly, individuals with ambulation skills can contact preferred stimuli associated with increased happiness and avoid nonpreferred stimuli much easier than

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persons with physical impairment that prevents mobility.

One likely reason for the lack of research on happiness among people with profound multiple disabilities is difficulty in defining and documenting what constitutes "being happy." Typically, measures of affect such as happiness among the nonhandicapped populace as well as among people with mild or moderate disabilities involve self-reports (Chadsey-Rusch, DeStefano, O'Reilly, Gonzalez, & Collet-Klingenberg, 1992). However, communication difficulties due to extreme mental and physical impairment generally disallow verbal self-reports as indicators of happiness among people with profound multiple disabilities.

Behavioral studies that have included measures of affect potentially related to happiness among people with disabilities have primarily relied on subjective rating scales (Dunlap, 1984; Dunlap & Koegel, 1980; Kennedy, 1994; Koegel & Egel, 1979). Singular behaviors such as smiling or laughing have also been used as indicators of positive affect (Jordan, Singh, & Repp, 1989). All of these investigations have focused on populations with less serious disabilities than profound mental and physical impairment. Also, behavioral studies have generally included affective measures to assess collateral effects of interventions designed to affect other behaviors, such as self-injury (Linscheid, Pejeau, Cohen, & Footo-Lenz, 1994). Few, if any, studies have focused on happiness as a dependent variable per se or on the development of interventions designed to directly increase happiness.

From one perspective, happiness can be viewed as a private event or hypothetical construct that is considered to be important by professionals as well as by the general populace (cf. Iwata, 1991). When viewed in this light, a potential behavioral strategy to assist people with profound disabilities in increasing their happiness would be first to operationally define behaviors that represent what people agree to indicate "happiness." Subsequently, those behaviors could be observed and quantified and an intervention developed to increase the occurrence of the happiness indices (Iwata, 1991). Taking such an approach to happiness and related quality-of-life variables has been suggested as one of the greatest challenges facing persons working with people with the most severe disabilities (Sailor, Gee, Goetz, & Graham, 1988).

This investigation represented an initial attempt to demonstrate a means of operationalizing, measuring, and altering happiness among people with profound multiple disabilities. Specifically, in two experiments, the purpose was to define and reliably observe happiness indices, to socially validate the defined indices, and to determine if the happiness indices could be increased by education personnel.

GENERAL METHOD

Setting and Participants

The setting was an adult education classroom serving 6 individuals with profound mental and physical impairment. The classroom was staffed by a certified teacher, who was intermittently present for oversight responsibilities, and two full-time teacher assistants. The assistants had high school degrees and at least 12 years of experience.

Students' ages ranged from 18 years to 41 years (M = 30 years). Each student was nonambulatory and was unable to propel his or her wheelchair or recliner. The students lacked any conventional communication skills and were dependent on support staff for fulfillment of all basic needs (e.g., eating, dressing). Medical diagnoses included diplegia, hemiplegia, quadriplegia, and scoliosis. Five students had seizure disorders, 3 had visual impairments, and 2 had hearing impairments.

Behavior Definitions and Observation System

To develop happiness indices, we selected observable responses generally associated with subjective feelings of happiness that (a) were similar to behaviors previously described (e.g., Derrickson, Neef, & Cataldo, 1993; Dunlap & Koegel, 1980; Hunt, Farron-Davis, Beckstead, Curtis, & Goetz, 1994), (b) were simple and applicable across different situations (Alevizos, DeRisi, Liberman, Eckman, & Callahan, 1978), and (c) would have reasonably clear face validity (Anderson, Ball, & Murphy, 1975). *Happiness* was defined as any facial expression or vocalization typically considered to be an indicator of happiness among people without disabilities including smiling, laughing, and yelling while smiling. *Unhappiness* was defined as any facial expression or vocalization typically considered to be an indicator of unhappiness among people without disabilities such as frowning, grimacing, crying, and yelling without smiling.

The observation system consisted of a 10-s partial-interval recording process for happiness and unhappiness. Each 10-s observation interval was separated by a 5-s record interval. Each observation session lasted 10 min. During observer training, observers were instructed to record indices of happiness and unhappiness only if they were certain such indices were observed. For example, if an observer was not sure whether a student's mouth movement was sufficient to constitute a smile, the observer would not score a happiness index occurrence based on that movement. Interobserver agreement was assessed on an interval-by-interval basis for overall, occurrence, and nonoccurrence agreement using the formula of agreements divided by agreements plus disagreements and multiplied by 100%.

Preference Assessments

Prior to the study, a preference assessment (Green et al., 1988) was conducted with each participant to determine stimuli that the participants consistently approached or avoided.

Experiment 1

The purpose of Experiment 1 was to attempt to reliably observe and validate the defined indices of happiness and unhappiness. Two validation evaluations were conducted in separate phases.

Method

Participants. Initially, 5 students were observed while a teacher assistant interacted individually with each student during typical classroom activities. One student was not observed because of absences. Each student was observed on three occasions using the procedures described earlier. Indices of happiness and unhappiness were observed for each student. Subsequently, 4 students were selected. These participants were selected because they displayed approach or avoidance responses during the preference assessment conducted prior to the study at a level indicating a strong preference for or against at least one stimulus, using previously established criteria (Green, Reid, Canipe, & Gardner, 1991; Green et al., 1988; Pace, Ivancic, Edwards, Iwata, & Page, 1985).

Phase 1

The purpose of Phase 1 was to determine whether (a) happiness indices would occur more frequently in the presence of the most preferred relative to the least preferred stimulus and (b) unhappiness indices would occur more frequently in the presence of the least preferred relative to the most preferred stimulus.

Procedures. Two stimuli were selected for each participant based on the preference assessment. With this assessment, at least 12 stimuli were presented to each participant one at a time in a series of trials. Each stimulus was placed in front of the participant

at least 30 times across six sessions. Approach responses (i.e., apparent voluntary movement toward the stimulus, continued contact with the stimulus, positive facial expression or vocalization) were used as the measure of preference (Green et al., 1991). Avoidance responses (i.e., pushing or turning away from the stimulus, negative vocalization) were used as the measure of nonpreference. The stimulus approached most often by a given participant was used as the most preferred stimulus, and the stimulus avoided most often was used as the least preferred stimulus during the subsequent assessment. One client (Don) did not display avoidance responses to any stimuli. Therefore, the stimulus associated with the fewest approach responses was used as the least preferred stimulus. The following stimuli (with percentage of approach or avoidance responses during the preference assessment) were selected as the most and least preferred stimuli, respectively: Bea, juice (approached, 87%) and vibrator (avoided, 77%); Tammy, mechanical toy (approached, 70%) and pudding (avoided, 90%); Sonny, verbal interaction (approached, 90%) and juice (avoided, 30%); Don, vibrator (approached, 100%) and colored light display (avoided, 0% and approached, 0%).

Observations were conducted while a teacher assistant provided the two target stimuli to each participant. The assistant initially presented one stimulus continuously for 1 to 3 min. The other stimulus was then presented for 1 to 3 min such that during each session, the most and least preferred stimuli were presented for equal time periods at least twice each per session. All stimuli were presented in the same manner as during the previous preference assessment. Three sessions were conducted with each participant.

Observations were conducted by an experimenter. Agreement observations were conducted on 42% of the sessions, involving each participant, by a student intern or teacher who was unaware of which stimuli represented most and least preferred stimuli. Overall agreement for happiness averaged 98% (range, 93% to 100%), occurrence agreement was 79% (77% to 80%), and nonoccurrence agreement was 97% (90% to 100%). Respective averages for unhappiness were 99% (95% to 100%), 88% (50% to 100%), and 99% (95% to 100%).

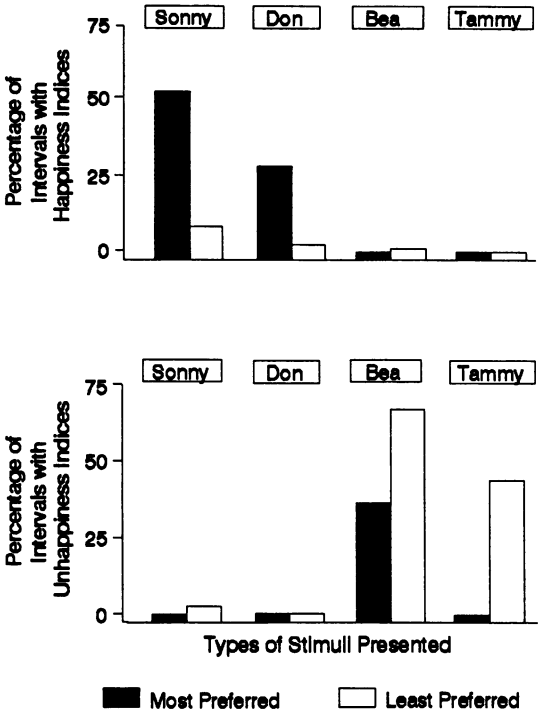

Figure 1. Average percentage of observation intervals with happiness (top panel) and unhappiness (bottom panel) indices for each participant when presented with stimuli previously assessed to be the most and least preferred.

Results. Results for individual students indicated two general patterns (Figure 1). First, Bea and Tammy displayed essentially no indices of happiness (respective means of 1% and 0%) but displayed relatively frequent indices of unhappiness. For both students, unhappiness was more frequent when presented with the least preferred stimulus (68% for Bea and 47% for Tammy) than

with the most preferred stimulus (40% and 0%, respectively). Second, Sonny and Don showed minimal unhappiness (respective means of 2% and 0%) but showed relatively frequent happiness. Both students showed more happiness when presented with the most preferred stimulus (50% for Sonny and 25% for Don) than with the least preferred stimulus (7% and 3%, respectively).

Phase 2

Phase 2 attempted to obtain a second type of validation for the happiness and unhappiness indices, involving opinions of practitioners who were experienced with people with multiple disabilities. A 7-point Likert scale was used to solicit opinions regarding how happy or unhappy a respective participant appeared to each practitioner. The neutral item on the scale was *neither happy nor unhappy* (scale value of 4) and the extremes of the scale were *extremely unhappy* (1) and *extremely happy* (7). In addition, practitioners were asked to indicate in which of two situations each participant appeared happier.

Procedures. During Phase 1, videotape samples of the 4 participants were obtained. For Bea and Tammy, who displayed unhappiness but essentially no happiness, one tape segment was obtained for behavior that had been scored by observers as demonstrating indices of unhappiness, and one segment was obtained that had been scored as demonstrating neither happiness nor unhappiness. For Sonny and Don, who displayed happiness but essentially no unhappiness, one tape segment was obtained for behavior that had been scored by observers as displaying happiness, and one segment was obtained for behavior that had been scored as neither happiness nor unhappiness. Each tape segment was brief, in accordance with the rather short duration of each observed instance of happiness or unhappiness, encompassing approximately 2 min.

The tape segments were viewed by two groups of practitioners. One group consisted of 18 practitioners (teachers, group home managers, etc.) attending a graduate class on severe disabilities. None of these practitioners had met the 4 individuals observed in the tapes. The second group consisted of 8 teacher assistants (2 assistants per target student) who were very familiar with the students. Each assistant had previously worked with a student for at least 9 months.

The practitioners were instructed to observe the degree to which each participant appeared to be happy or unhappy in each tape segment. The tape presentation process involved first observing both tape segments to familiarize the practitioners with the ongoing activity, then observing one segment and completing the rating form, and then viewing the second tape segment for that participant and completing the rating scale. After viewing both tape segments, the practitioners recorded in which of the two segments the participant appeared to be happier. Because one segment for each participant contained one of the target indices of happiness or unhappiness and one segment contained no indices of happiness or unhappiness, the order of presentation of the two types of segments was counterbalanced across participants. The practitioners who were unfamiliar with the participants viewed tape segments for all participants, whereas practitioners who were familiar with a participant viewed tape segments only for the participant with whom he or she was familiar.

Results

Ratings of both groups of practitioners regarding happiness and unhappiness coincided closely with the systematically observed, behaviorally defined indices of happiness and unhappiness for 3 participants and corresponded generally for 1 participant (Figure 2). For Bea and Tammy, whose tape segments presented behavior that had been pre-

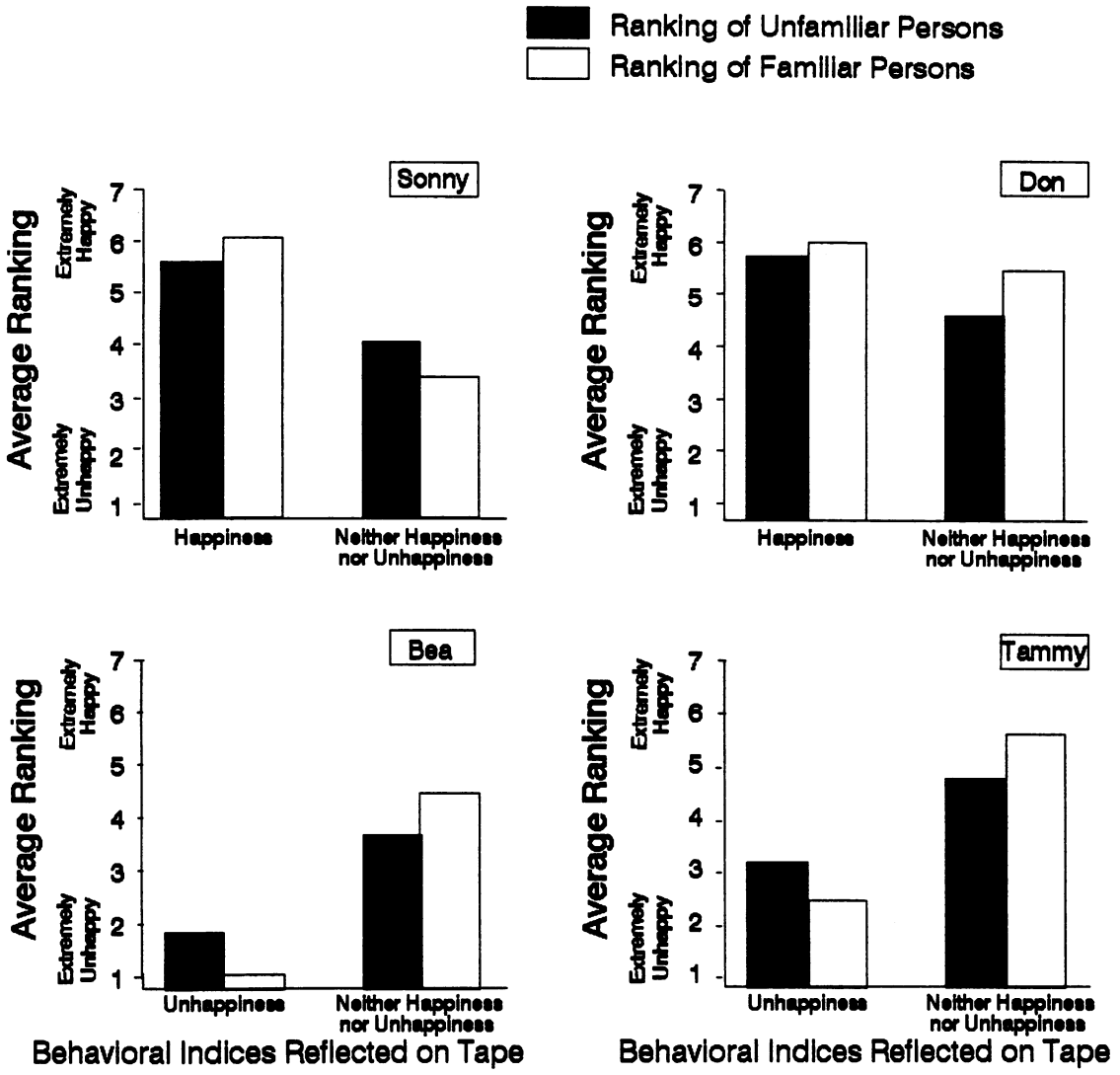

Figure 2. Average happiness rankings across practitioners who were unfamiliar with each participant, and across practitioners who were familiar with a participant, when the participant exhibited behaviors previously recorded as happiness indices (for Sonny and Don), unhappiness indices (Bea and Tammy) and neither happiness nor unhappiness indices (all 4 participants).

viously scored as unhappy by observers in Phase 1, the practitioners' ratings (averaged across practitioners familiar and unfamiliar with the participants) fell in the *unhappy* range of the Likert scale, averaging 1.5 for Bea and 2.8 for Tammy. In contrast, for the tape segments presenting behavior that had been previously scored as showing no indices of unhappiness (or happiness), the practitioners' ratings were higher, averaging 4.1 for Bea (just above *neither happy nor unhappy* on the scale) and 5.2 for Tammy (just above *happy*).

For the 2 participants whose tape segments included previously observed indices of happiness, practitioner ratings also coincided with the observed behavioral indices, although the correspondence for Don was less apparent. The average rating for both Sonny's and Don's tape segments that in-

cluded previously observed indices of happiness was 5.9 (just below *very happy*). In contrast, ratings of the segments that had been previously observed to show no happiness or unhappiness averaged 3.8 (just below *neither happy nor unhappy*) for Sonny and 5.0 (*happy*) for Don.

The practitioners' responses to the question regarding the tape segment in which each participant appeared to be happier strongly coincided with the systematically observed, behaviorally defined indices. For both Bea and Tammy, 95% of the practitioners reported that the participants appeared to be happier in the tape showing no observed indices of happiness or unhappiness relative to the tape showing unhappiness. Similarly, for Sonny, 100% of the practitioners and for Don, 95% of the practitioners reported that the students appeared to be happier in the tape showing indices of happiness relative to the tape showing no observed indices of happiness or unhappiness.

Discussion

Results of Experiment 1 provide several types of support for the validity of the behaviorally defined indices of happiness and unhappiness. Systematic observations in Phase 1 indicated that participants appeared to be happier when presented with preferred stimuli relative to less preferred stimuli. It was hypothesized that participants would be happier in the presence of stimuli they typically approached than in the presence of stimuli they avoided, and the results supported this hypothesis. However, the association between the presence of high-preference stimuli and indices of happiness may have been due in part to similarities in the definition of an approach response that was used to identify high-preference stimuli and the definition of happiness used in Phase 1. For example, one part of the definition for approach was a positive facial expression. There were also similarities between the definition of an avoidance response and the definition of unhappiness. However, the stimuli used in Phase 1 generally involved participant interactional responses related to the stimuli as approach and avoidance behaviors during the preference assessment, not just facial expressions and vocalizations that constituted the happiness and unhappiness indices. Hence, it seems unlikely that the increased happiness and unhappiness indices that occurred in the presence of most and least preferred stimuli, respectively, were due solely to overlap in the definitions. Nevertheless, additional validation support was sought in Phase 2.

Results of Phase 2 indicated that there was a relatively strong consensus among 22 practitioners that participants appeared to be happier when (a) they exhibited behaviors previously defined as indicating happiness relative to exhibiting no behaviors indicating happiness and (b) they exhibited no behaviors indicating unhappiness relative to exhibiting behaviors previously defined as indicating unhappiness. The latter results occurred whether the practitioners were familiar or unfamiliar with the participants. As indicated earlier, results for Don were less apparent than with the other participants, although they still tended to conform to the basic hypothesis. When considered in conjunction with results of Phase 1, the results appear to represent convergent validation (Anderson et al., 1975) of the defined indices of happiness and unhappiness.

Experiment 2

The purpose of Experiment 2 was to demonstrate that indices of happiness could be systematically increased by classroom staff.

Method

Participants. The 3 students with the highest and most consistent classroom atten-

dance participated. All experimental procedures were conducted by the two teacher assistants.

Observation system. Observation sessions occurred as described for Phase 1. Agreement checks occurred during 31% of all observations, including each experimental condition and participant. A teacher who was unaware of the ongoing experimental conditions conducted 13% of the checks. Overall agreement averaged 98% (range, 90% to 100%) for happiness and 99% (range, 98% to 100%) for unhappiness. Occurrence agreement averaged 83% (range, 60% to 100%) for happiness and 97% (range, 75% to 100%) for unhappiness. Nonoccurrence agreement averaged 92% (range, 89% to 100%) for happiness and 99% (range, 97% to 100%) for unhappiness.

Experimental conditions—baseline. During baseline, the teacher assistants conducted their usual classroom routine. Each assistant rotated among students to implement one-to-one teaching programs. Between teaching trials and individual programs (which typically occurred for approximately 10 min at a time), the assistants interacted briefly with all other students. Participants who were not receiving formal one-to-one teaching programs were provided with stimulation devices, such as a switch-activated vibrator, and received social interaction from an assistant or an interaction to prompt or praise activation of stimulation devices approximately once every 3 min on average.

Experimental conditions—fun time program. The intervention to increase indices of happiness, the "fun time program," consisted of three components. First, the assistants presented participants with their previously assessed, most preferred items and activities intermittently for 1 to 3 min during each session. These stimuli were as follows: Bea, hand-held leisure items; Sonny, hug and verbal interaction; and Don, vibration from a hand-held vibrator. Second, assistants interacted individually in ways that they believed resulted in the most enjoyable experiences for the participants. These interactions included verbal interactions, air from hair dryer blown on arm and light tickling on arms for Bea, light tickling on arms and rubbing of arms with a mitt for Sonny, and verbal interaction and bouncing in a reclining wheelchair for Don. Thus, throughout a 10-min observation session, the assistants intermittently interacted with the client in the ways that they believed pleased the client or presented stimuli identified as preferred by a formal preference assessment. Each interaction or stimulus presentation lasted from 1 to 3 min.

The third component of the intervention consisted of planned initiation and termination of the presentation of stimuli based on observed happiness-unhappiness indices. Assistants were informed of the behavioral definitions of happiness and unhappiness prior to the first intervention session. Subsequently, they were instructed (a) to immediately discontinue an ongoing item presentation or activity upon any indication of the participant's unhappiness and (b) to change items or activities after 1 min during which no indication of happiness was observed. An experimenter provided feedback after each session, indicating whether participants displayed more happiness indices relative to baseline.

Following the investigation, the assistants continued to implement the fun time program intermittently during the classroom day. Follow-up observations were conducted at periods ranging from 22 to 24 weeks across participants.

Experimental design. A multiple probe design across participants was used to evaluate the fun time program. In addition, an experimental reversal design was conducted for Bea.

Results and Discussion

As indicated in Figure 3, low frequencies of happiness indices occurred during the first

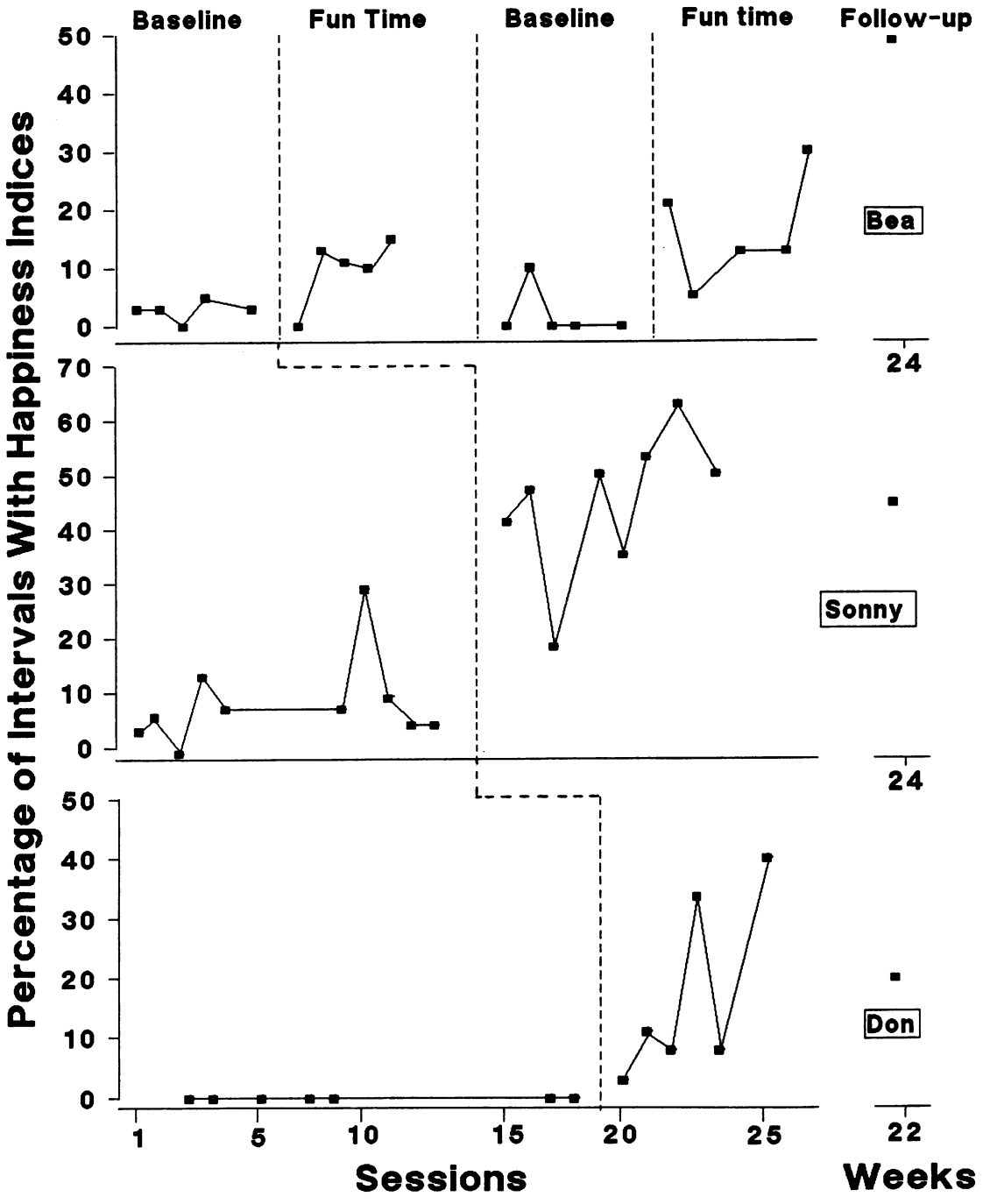

Figure 3. Percentage of observation intervals with happiness indices during each session of all experimental conditions for each of 3 participants.

baseline for Bea (M = 3%; range, 0% to 5%), Sonny (M = 9%; range, 0% to 30%) and Don (0%). Subsequent increases occurred for each participant during the fun time program. The increase for Bea was small, with a mean of 10% (range, 0% to

15%), although it was consistent and apparent after the first intervention session. Because of the relatively small change in Bea's happiness indices, a return to baseline was conducted. During the second baseline, Bea's indices of happiness decreased to a mean of 2% (range, 0% to 10%) and then increased to 16% (range, 5% to 30%) during the second intervention. Increases in happiness indices during the intervention were more apparent for Sonny (M = 45%; range, 18% to 63%) and Don (M = 17%; range, 3% to 40%). During each intervention condition, increasing trends in frequency of happiness indices occurred. Follow-up observations indicated that the frequency of observed happiness indices was maintained well above baseline levels.

No consistent changes in unhappiness indices occurred across experimental conditions. Bea's unhappiness averaged 9% during baseline and 11% during the intervention. Sonny and Don displayed minimal unhappiness, averaging 2% or less for both conditions. The latter results are noteworthy because withdrawal of less preferred stimuli contingent on behaviors indicating unhappiness could conceivably negatively reinforce those behaviors. Although such an outcome did not occur in this investigation, future application of similar interventions should include measurement of unhappiness indices to ensure that such an outcome does not result.

Results of Experiment 2 indicated that the classroom assistants effectively increased indices of happiness among the participants. Increases in observed happiness indices occurred during each implementation of the fun time program with each participant. Happiness indices for each participant also appeared to increase with continued exposure to the program. One explanation for the latter results is that the assistants became more proficient over time in conducting components of the program. In particular, they appeared to improve the proficiency with which they implemented the contingent aspects of the program in terms of quickly terminating specific activities that either were not accompanied by indices of happiness or were initially accompanied by happiness indices that subsequently ceased.

GENERAL DISCUSSION

Overall, the results of the two experiments indicate that indices of happiness among people with profound multiple disabilities can be defined, reliably observed, and systematically increased. The happiness definition was successfully used to denote differences in happiness across and within participants. The observation system was straightforward to use and was reliably implemented by the experimenters, the teachers, and an intern. These features suggest that the observation system may be amenable to routine application in classroom settings.

Perhaps the most critical aspect of attempting to objectively observe indices of affect such as happiness among people who cannot use conventional means to self-report their affect is to ensure that what is being observed is what is intended to be observed. Results of Experiment 1 provide initial support for the validity of the happiness indices in several ways. First, it seems reasonable to assume that individuals are likely to be happier when presented with preferred stimuli relative to less or nonpreferred stimuli. Results of Phase 1 in Experiment 1 provide empirical support for this proposition. Second, ratings of professional and paraprofessional personnel experienced with people with profound disabilities generally coincided with the behaviorally defined, systematically observed happiness indices.

Despite the relatively consistent support across different measures of the validity of the definitions, caution is warranted in interpreting the results. In essence, happiness is a private event and, as such, is not readily

amenable to direct study in the manner typically used in behavior analysis (Kennedy & Souza, 1995). Rather, as in this investigation, private events are studied indirectly, by focusing on public behaviors that are presumed to correlate with the private event of concern. Due to the correlational component, definitive conclusions regarding the degree to which the private event (i.e., happiness) was truly observed and altered are difficult to derive.

One concern that illustrates the caution with which the results should be interpreted pertains to whether individuals might intentionally engage in behaviors that are typically correlated with a private event when such behaviors are not indicative of the private event at the time. Specifically, an individual might smile for social or operant reasons when he or she is not happy, such as to avoid displeasing someone who is attempting to humor the individual. However, this concern seems to be less of an issue with people who have profound mental and physical impairment and minimal communicative behaviors and who also exhibit few behaviors that are under apparent social control. Individuals with less serious disabilities than profound multiple handicaps who engage in frequent interpersonal interactions may be more likely to display indices of happiness that are not representative of their private experience for social reasons. Hence, the methodology used in this investigation may be less appropriate for these populations.

When applied with caution, the behavior-analytic approach used in this investigation may offer assistance to individuals with severe disabilities to experience a satisfying quality of life. Other important private events (e.g., loneliness) could be operationalized into behavioral indices, and a systematic observation process could be developed to monitor the indices reliably. Validation could then be sought for the indices as shown in this investigation, and the indices could be increased or decreased in frequency as appropriate through systematic intervention. This type of research model may enhance further study of important experiences for people with profound disabilities that heretofore were considered to be beyond the realm of the behavior-analytic field.

The classroom intervention used to increase happiness indices was relatively simple to implement. The assistants required only a few minutes of initial instruction along with a few minutes of daily feedback to implement the fun time program. In addition, the assistants continued to implement the program after completion of the study, with increases in happiness indices that were maintained during follow-up observations conducted 5 months later. However, one component of the program involved procedures that can be rather complex and time consuming. Specifically, the assistants relied, in part, on presentation of stimuli that had been previously identified through systematic assessments to be strongly preferred by the participants. Systematic preference assessments with people who have profound mental and physical impairments can be procedurally complex (Green et al., 1988). Future research to analyze the effective components of the program, and especially the degree to which systematically assessed preferred stimuli affect the program's efficacy, is warranted. It should also be noted that happiness indices were increased during brief, circumscribed sessions. Research is needed to determine which components of the program could affect these indices during longer portions of an individual's day.

If future research supports the approach to observing and increasing happiness indices as presented in this investigation, then several practical applications of the procedures are possible. For example, the system for monitoring happiness could be used in quality improvement applications as one measure for evaluating (and comparing) the

quality of various supports for people with profound disabilities. The degree to which different programs are accompanied by high rates of happiness indices may represent one measure of the most promising practices for evaluating the programs (Meyer, Eichinger, & Park-Lee, 1987). Another application may be to identify individuals who exhibit frequent indices of unhappiness and then determine means of reducing sources of unhappiness. If these and related areas of research are pursued, the contributions of behavior analysis for enhancing the quality of life among people with profound multiple disabilities may be increased significantly.

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